

REMARKS / DISCUSSION OF ISSUES

Claims 1-8, 10-12 and 14-17 are pending upon entry of the present amendment. Amendments are not made in view of the applied art.

Allowable Subject Matter

Applicants gratefully acknowledge the indication of allowability of the subject matter of claim 13. New claim 17 recites the subject matter of claim 13 in independent form, and includes the subject matter of claim 10. Allowance of claim 17 is earnestly solicited.

Rejections under 35 U.S.C. § 102

Claims 1,2,4,6,8,10 and 14-16 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by *Harvey, et al.* (U.S. Patent 5,843,539). For at least the reasons set forth below, Applicants respectfully submit that all claims are patentable over the applied art.

At the outset Applicants rely at least on the following standards with regard to proper rejections under 35 U.S.C. § 102. Notably, a proper rejection of a claim under 35 U.S.C. § 102 requires that a single prior art reference disclose each element of the claim. *See, e.g., W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983). Anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. *See, e.g., In re Paulsen*, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); *In re Spada*, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990). Alternatively, anticipation requires that each and every element of the claimed invention be embodied in a single prior art device or practice. *See, e.g., Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992). For anticipation, there must be no difference between the claimed invention and the reference disclosure, as viewed by a

person of ordinary skill in the field of the invention. *See, e.g., Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991).

i. Claim 1

A mechanical structure comprising a substrate and a layer of an oriented polymerized liquid crystal forming an element on said substrate,

wherein said element is locally adhered to an adhering region of said substrate and is delaminated from said substrate at a non-adhering region of said substrate, where said adhering region has a higher adhesiveness to the polymerized liquid crystal than said non-adhering region; and

*wherein **the oriented polymerized liquid crystal of said layer has an anisotropic orientation such as to render the element moveable by non-mechanical means between a first state having a first shape and a second state having a second shape different from the first.***

In rejecting claim 1, the Office Action directs Applicants to column 3, lines 33-50 of *Harvey, et al.* While this portion of the applied art discloses that liquid polymer films become less anisotropic due to the application of transverse shear, there is no disclosure of an oriented polymerized liquid crystal having an anisotropic orientation as specifically recited in claim 1. In relevant part, *Harvey, et al.* discloses at column 3, lines 30-41:

“But, as mentioned above, such a process forms two layers in the film with complementary orientations, for example +/-45.degree., on either side of the machine direction in which the extrusion has taken place. As described above, this has led to the drawback of curling in liquid crystal polymer film sheets made from such extruded tubes. **The liquid crystal polymer films become less anisotropic due to the application of transverse shear**, but they still curl after cooling, because of the non-uniform CTE phenomenon mentioned above. Curl becomes very significant when the film is orthotropic, i.e., having equal properties in orthogonal directions in the plane of the film, as in a balanced biaxial film.” (Emphasis added.)

As such, while the films become less anisotropic, there is no disclosure of an *oriented polymerized liquid crystal having an anisotropic orientation*. For at least this

reason, Applicants respectfully submit that the applied art fails to disclose at least one feature of claim 1. Therefore, a *prima facie* case of anticipation cannot be made in view of *Harvey, et al.*, and claim 1 is patentable thereover. Furthermore, claims 2 and 4-8, which depend from claim 1, are patentable for at least the same reasons and in view of their additionally recited subject matter.

ii. Claim 10

Claim 10 features, inter alia:

*“A method of manufacturing a mechanical structure comprising a substrate and a layer of an oriented polymerized liquid crystal forming an element on said substrate, wherein **the oriented polymerized liquid crystal of said layer has an anisotropic orientation** such as to render the element moveable by non-mechanical means between a first state having a first shape and a second state having a second shape different from the first, said method comprising...”*

The rejection of claim 10 relies on the same portion of *Harvey, et al.* that was relied upon in the rejection of claim 1. Therefore, and for at least the reasons set forth above, Applicants respectfully submit that the applied art fails to disclose at least one feature of claim 10. Therefore, a *prima facie* case of anticipation cannot be made in view of *Harvey, et al.*, and claim 10 is patentable thereover. Furthermore, claims 11, 12 and 14-16, which depend from claim 10, are patentable for at least the same reasons and in view of their additionally recited subject matter.

Rejections under 35 U.S.C. § 103

The rejections of claims 3,5, 7 and 12 under this section of the Code have been considered. While Applicants in no way concede the propriety of the rejections, claims 3,5, 7 and 12 depend from one of claims 1 and 10. As such, claims 3,5,7 and 12 are

patentable for at least the same reasons and in view of their additionally recited subject matter.

Conclusion

In view the foregoing, applicant(s) respectfully request(s) that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application in condition for allowance.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies to charge payment or credit any overpayment to Deposit Account Number 50-0238 for any additional fees, including, but not limited to, the fees under 37 C.F.R. §1.16 or under 37 C.F.R. §1.17.

If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted on behalf of:
Phillips Electronics North America Corp.

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